

**UNITED STATES DEPARTMENT OF COMMERCE****Patent and Trademark Office**Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231*AS*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/165,513 10/02/98 VIJAYEN V 14089-002540

IM52/0122

EXAMINER

MARK D BARRIS  
TOWNSEND AND TOWNSEND AND CREW  
8TH FLOOR  
TWO EMBARCADERO CENTER  
SAN FRANCISCO CA 94111-3834

RESAN, S

ART UNIT	PAPER NUMBER
----------	--------------

1773

*q*

DATE MAILED:

01/22/01

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

## Office Action Summary

Application No.  
09/165513

Applicant(s)

VIJAYEN et al

Examiner

RESAN

Group Art Unit

1772

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication .
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

### Status

- Responsive to communication(s) filed on \_\_\_\_\_.
- This action is FINAL.
- Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- Claim(s) 17-47 is/are pending in the application.
- Of the above claim(s) 17-37, 47 is/are withdrawn from consideration.
- Claim(s) \_\_\_\_\_ is/are allowed.
- Claim(s) 38-46 is/are rejected.
- Claim(s) \_\_\_\_\_ is/are objected to.
- Claim(s) \_\_\_\_\_ are subject to restriction or election requirement.

### Application Papers

- See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.
- The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- The specification is objected to by the Examiner.
- The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. § 119 (a)-(d)

- Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
  - All  Some\*  None of the CERTIFIED copies of the priority documents have been received.
  - received in Application No. (Series Code/Serial Number) \_\_\_\_\_.
  - received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

### Attachment(s)

- Information Disclosure Statement(s), PTO-1449, Paper No(s). 6/2  Interview Summary, PTO-413
- Notice of Reference(s) Cited, PTO-892  Notice of Informal Patent Application, PTO-152
- Notice of Draftsperson's Patent Drawing Review, PTO-948  Other \_\_\_\_\_

## Office Action Summary

Art Unit: 1773

### **DETAILED ACTION**

1. Applicant's election without traverse of Claims 38-46 in Paper No. 8 is acknowledged.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 38-46 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are deemed indefinite and confusing since the use of the term "apparatus" is contrary to accepted usage. The examiner suggest replacing it with "article".

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

5. (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Art Unit: 1773

6. Claims 38, 39, 41-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Taniguchi U.S. 5,705,272.
7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.
8. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taniguchi as applied above and discussed below.

Taniguchi does not disclose a layer of highly tetrahedral amorphous carbon containing 4-30%N. However, the nitrogen doping of carbon films was old in the art at the time of the invention and it would have been obvious to one of ordinary skill in the art to dope with nitrogen to vary electrical properties.
9. Claims 38, 45, 46 rejected under 35 U.S.C. 102(e) as being anticipated by Cuomo et al U.S. 5,852,303.
10. Claims 38-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al.

Art Unit: 1773

Baldwin et al discloses a substrate and a layer deposited over the substrate which is deemed to encompass the present claims since it appears to be produced by a method which is equivalent to applicants method (See Col. 5, lines 14-24) wherein the average energy per deposited carbon atom is between 50eV and 100eV which overlaps the range of 57-130 e.v. taught by the present specification.

Baldwin teaches that smooth surfaces may be formed (Col. 6, lines 28-29) as in claim 44 and that the carbon layer may be doped by nitrogen during deposition to regulate electrical conductivity and stress (Col. 4, lines 35-36, Col. 9, line 60, Col. 10, line 11.)

Hydrogen is contained in the carbon film and is used to regulate hardness and optical properties.

Since the  $sp^3/sp^2$  ratio, hydrogen and nitrogen content are results effective variables as shown by the references of record supplied by applicant. It would have been obvious to one of ordinary skill in the art to vary these properties to optimize the carbon coating for a particular end use.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ueda et al is cited for teaching a carbon protective layer containing nitrogen deposited on a hard carbon film which may have a  $sp^3$  content of up to 77% and a hydrogen content of greater than 35%.

Art Unit: 1773

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stevan A. Resan whose telephone number is (703) 308-4287. The examiner can normally be reached on Tues. - Fri. from 7:30a.m. to 6:00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Thibodeau, can be reached on (703) 308-2367. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-5436.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2351.

Resan/ph

January 8, 2001



**STEVAN A. RESAN  
PRIMARY EXAMINER**